

About the Status of Meat Industry in Kazakhstan and in the World

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Abstract: Economy of Kazakhstan, as well as of the other countries in the world is characterized by globalization of economic relations, increase of competition on market. The article notes that, despite the ongoing efforts on improvement of the performance of agricultural producers in improving breeding of livestock products, control of dangerous animal and plant diseases, reduction of costs, production of meat and meat products is not competitive. The article shows the volume of meat production and processing in Kazakhstan and regions in 2012 in comparison with 1990; dynamics of meat and meat products consumption; beef and lamb market forecast to 2014. The article includes data on annual capacity in Kazakhstan. It is stated that most regions of the country are in high risk area of agricultural production and the existing irrigation system doesn't allow to grow fodder crops at low cost due to the fact that production is concentrated mainly in the households. The article includes information on world production of meat and meat processed products; cattle population in the world, level of meat consumption by types, import and export of beef, sheep population in the world and lamb market, global horsemeat market [1,2,3]. The article proposes measures on increasing production of all meat types through cooperation of small-scale agricultural producers and households.

Key words: Innovation • Profitability • Efficiency • Rates and livestock production unit • Forecast of development • Use of capacity • Product consumption • Scientifically justified consumption rate • Gross output

INTRODUCTION

By January 1, 2012 in the Republic of Kazakhstan the share of agribusinesses involved in production and processing of livestock and crop production was as follows: out of 100% of agribusinesses-0.07%-state-owned enterprises of all kinds, 2.66%-partnerships, 0.09%-joint-stock companies, 0.86%-production cooperatives, 96.32%-private farms.

Livestock sector takes about 53% of total volume of agricultural industry of the Republic of Kazakhstan and is the least affected by weather conditions, except for feed production and world prices for products. Livestock production is spread almost everywhere and in the structure of agricultural lands, pastures occupy 3 times more areas than arable lands.

Comparative data of livestock production in Kazakhstan in 2012 show that agriculture has not reached the level of 1990-s and this index is only 52% to the level of 1990-s, of which cattle-57.1%, sheep-42.3%, pigs-31.8% and poultry-57%. The level of 1990-s has been reached only on the number of horses. The number of cattle in 2012 decreased compared to 2011 to 1.8%, sheep-to 25% and pigs-to 19.2% due to the decline of the number of livestock in households.

In 1990-s forage crops took 33% of total sown areas and in 2010-2011, this ratio was only 12%, i.e. sown area under forage crops has reduced 4.6 times.

Soil fertility in the country remains low because most regions of the country are located in the high risk farming zone. Existing irrigation systems don't

allow low cost forage crops production because main production is concentrated in households. All this reduce the efficiency of production and marketability of products.

In 1990, in Kazakhstan, feed production volume was more than 4 mln. tons and now Kazakhstan produces about 365 thous. tons, that means that feed production reduced 10.9 times. In calculation per 100 hectares of agricultural lands, production of meat in live weight of livestock is 18.7 centers.

In 2010 according to the UN Food and Agriculture Organization, the global meat production volume in live weight was 289.3 mln. tons, including beef-65.9, pork-106.1, poultry-94, 7, lamb-8.5, sausages-4.39 and canned meat-9.67. Global meat production structure is as follows: USA-19%, Brazil-14%, EU-27-13%, China 10%, Argentina-5%, other-39%. Similar trend is also observed in the volume of meat and meat products consumption [1,2,3].

MATERIALS AND METHODS

The essence of specific functioning of agri-industrial complex of the country and the need to ensure food security requires the implementation of agricultural policy, government regulation, in which various methods used by the government enhance market development.

Main Part: In 2012 gross livestock production of Kazakhstan was as follows: from 100%-8.6%-agribusinesses, 8.8%-private farms, 82.6%-households.

In 1990, forage crops represented 33% of total sown areas and in 2012 this correlation was only 12%, i.e. sown area under fodder crops reduced 4.6 times. In 1990, production of mixed fodder in Kazakhstan was more than 4.0 mln. tons, now it is about 365 thous. tons, i.e. feed production has reduced 10.9 times.

In 1990, meat production in slaughter weight was 1 559.6 thous. tons and 898.6 thous. tons were delivered to the meat factory for processing, or 57.6%, production of meat and meat products per capita was 54.5 kg. A considerable number of medical products was produced from endocrine-enzyme processed raw materials, food blood was used for production of hematogen, blood sausages etc., technical blood was used for production of fodder and technical flour, different kinds of bones were used for production of food broth, souvenirs and feed flour, intestinal raw material was used for production of sausages, suture-surgical medical thread and skins for production of shoes, coats, etc. All this resulted in high profitability of production at operating plants [4].

Sheep, horse and camel production-are national livestock sub-sectors which exist from ancient times. Kazakhstan produces deer, rabbit and natural saiga meat. Poultry takes a special place in the diet of Kazakhstan people [5].

In 2012, share of meat processing was 21.5% from general production volume. The lowest share of meat processing was in the following regions-Atyrau (0.9%), Mangistau (4.9%), Kostanay (5.8%), Akmola (10.6%), Kyzylorda-(10.4 %) and North Kazakhstan (18.4%). In other regions, share of processing was 24,4-41%. The coefficient of using capacities of meat processing enterprises was 56.3%. Current capacity is 342 thous.tons, however, 192.6 thous. tons were processed. The share of meat processing in the regions and use of capacities are shown in Table 1 [6].

According to the scientifically justified rate, recommended by Nutrition Academy, human being needs 82 kg of meat per year, including 32 kg (39%) of beef, 28 kg (34%) of pork, 4 kg (5%) of mutton, 16 kg (20%) of poultry meat and 2 kg (2%) of other meat. According to the rate it is recommended that one person should consume 49 kg of chilled and carcass meat, 22 kg of sausages, 4 kg of canned meat, 7 kg of semi-finished products. From our point of view, the above mentioned recommended rate of meat consumption corresponds to all human needs and the rate 41.6 kg of meat per year recommended by the Nutrition Academy of the Republic of Kazakhstan is temporary due to the limited meat resources [7].

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The proposed Table 2 reflects the dynamics of meat and meat products consumption by regions of Kazakhstan per capita per year. The data in Table 2 shows that consumption of meat and meat products by January 1, 2012 has increased in comparison with the year 2000 in all regions, but has not reached the level of 1990.

Table 1: Share of meat processing and use of capacities

Regions	Production, thous.tons	Capacities, thous.tons	Processing, thous.tons	Coefficient of using capacities and share	
				%	%
Republic of Kazakhstan	896,2	342	192	56,3	21,5
Akmola	53,7	22,9	5,7	24,9	10,6
Aktobe	52,9	12,6	8,6	68,3	16,3
Almaty	150,3	109,6	44,5	40,6	29,6
Atyrau	23,5	0,13	0,2	148,1	0,9
East-Kazakhstan	112,5	72,4	27,5	38	24,4
Zhambyl	47,3	4,2	13,0	309,5	27,5
West-Kazakhstan	37,8	5,4	12	222,2	31,7
Karaganda	65,3	25,5	20,3	79,6	31,1
Kostanay	147,9	12,3	8,6	69,9	5,8
Kyzyl-Orda	16,4	0,9	1,7	188,9	10,4
Mangystau	4,6	0,08	0,2	250	4,3
Pavlodar	40,5	18,4	16,6	90,2	41,0
North-Kazakhstan	59,9	13,5	11,0	81,5	18,4
South-Kazakhstan	83,1	4,6	10,0	217,4	12,0
Astana city	0,2	8,7	4,0	46,0	0,0
Almaty city	0,3	30,8	8,7	28,2	0,0

Table 2: Consumption of meat and meat products in Kazakhstan per capita per year

Regions	1990	1995	2000	2005	2009	2012
Akmola	73	52	44	40	51	68,7
Aktobe	85	56	46	39	51	66,4
Almaty	70	41	50	43	52	94,5
Atyrau	77	56	46	39	45	106,2
East-Kazakhstan	78	52	37	41	55	54,6
Zhambyl	70	67	57	40	52	75,7
West-Kazakhstan	62	49	37	31	51	58,6
Karaganda	79	44	38	41	54	59,0
Kostanay	70	61	63	34	53	-
Kyzyl-Orda	60	32	27	29	50	27,9
Mangystau	72	43	36	47	40	10,9
Pavlodar	57	47	36	31	36	42,7
North-Kazakhstan	70	52	54	40	50	66,5
South-Kazakhstan	82	60	55	42	56	-
Astana city	77	58	46	47	63	107,4
Almaty city	-	-	45	58	57	-
Akmola	-	-	44	57	60	-

In accordance with the developed master plan of meat and meat products production development of JSC "Kazagromarketing", forecast of beef and lamb market development for 2010 and 2014 is as follows (Table 3).

Implementation of master-plan of poultry development will result in the increase of domestic production of poultry meat which will supply domestic consumption by at least 70%, this can be seen from Table 4.

Currently we consume about 200 thous.tons of poultry meat, while the share of imports of poultry meat in the domestic market is 70%, correlation between import and domestic production is about 70.5%. Medical norm of poultry consumption is 17.5 kg and actual consumption is 13 kg per capita per year.

Meat processing is on leading position in industrial meat processing volume-65-68%, the share of poultry meat processing in different years was 30-32% [8].

Table 3: Forecast of beef and mutton market development

		2010	2011	2012	2013	2014
Production	beef	489,4	513	534,6	553,7	563,9
	mutton	117,3	119,3	121	122,4	123,8
Import	beef	12,8	12,7	11,6	12,1	12,8
	mutton	0,3	0,4	0,4	0,4	0,7
Price import, mln. USD	beef	25,4	26,1	25,8	28,1	31,2
	mutton	0,7	0,8	0,9	1	1,7
Average price of import, mln. USD per 1 kg	beef	2,0	2,1	2,2	2,3	2,4
	mutton	2,1	2,2	2,3	2,5	2,6
Export	beef	0,4	0,5	0,5	0,6	0,6
	mutton	0	0,1	0,1	0,1	0,2
Price export, mln.USD	beef	1,5	1,8	2,1	2,4	2,8
	mutton	0,1	0,2	0,3	0,5	0,7
Average export price, in USD per 1 kg	beef	3,7	3,9	4,2	4,4	4,6
	mutton					
Market volume	beef	501,8	525,2	545,1	565,3	576,1
	mutton	117,5	119,6	121,3	122,7	124,3
Consumption per capita	beef	31,5	32,7	33,8	34,7	34,9
	mutton	7,4	7,4	7,5	7,5	7,5

Table 4: Poultry meat market development forecast

	2010	2011	2012	2013	2014
Assumed poultry meat production by agricultural enterprises, thous.tons	78	95	112	124	138
Assumed poultry production by households, thous.tons	10	10	10	10	10
Total poultry production, thous.tons	88	105	122	134	148
Forecasted level of import substitution of poultry meat on domestic market	56%	50%	43%	39%	35%

During the period from 1990 to 2012 significant changes have happened in meat industry of Kazakhstan. In 1990 total production capacity in the Republic was 2,350 tons per shift and in 2012-1157 tons per shift.

In 1990, 4 meat canning plants existed in the Republic: in Semipalatinsk, Petropavlovsk, Alma-Ata and Urals, 20 meat processing plants in all regional centers-Shuchinsk, Ekibastuz, Ush-Tobe, Zyryanovsk, Atbasar, Leninogorsk, Ayagoz, Arkalyk and Dzhetysay, 12 slaughterhouses, 5 cool slaughter houses, 1 meat-processing plant, 3 sausage producing units.

In 2012, there are 329 MPC, 60 slaughter houses and 9 MC. Most significant meat processing capacity is in Almaty, East-Kazakhstan, Karaganda, Akmola, North-Kazakhstan, Kostanai, Pavlodar, South Kazakhstan regions and Almaty city. Kazakhstan the use of the average annual capacity is 36.62, including WKR-76.9, Atyrau-74, EKR-71.4, Mangistau-67.5. Analysis of conformity of raw materials to production capacities of meat processing plants shows that the

largest share in meat production in carcass weight is observed in Kostanai, Almaty, East Kazakhstan, South Kazakhstan, Karaganda regions. In the Republic most products are produced by enterprises located in Almaty, East Kazakhstan, Karaganda and North Kazakhstan regions. So, regional processing plants are located in the following order: in the North-41.2%, in South-22.6%, in Eastern region-19.9%, in West-10.3%, in Central-6.0 %. Old enterprises such as LLP "Etkon" (Almaty), LLP "Food plant" (Astana), LLP "Semipalatinsk meat plant" (Semey), LLP "Zhaiket" (Uralsk), LLP "Et" (Kostanay), LLP MPC (Ekibastuz), Atbasar meat plant, Balkhash meat plant, Shuchinsk meat plant continue operation. In addition, new businesses have been built, such as LLP "Shuchinsk meat plant", LLP "Kara-su Et", LLP "Kluchevoye", LLP "Agribusiness +", LLP "Asyk", LLP "Vladimir", LLP "Kublei", Sergievsky procurement company, PC "Sharov", LLP "Rioristo".

Global meat and meat products production. The world population is 6.7 billion people, meat consumption per capita is 41.2 kg per year. In

Kazakhstan, meat production is 896 thous. tons in slaughter weight with consideration of all farms and population number is 16.3 mln. people, in Belarus-921 thous.tons, Ukraine-1917 thous. tons, Russia-6703 thous.tons, Austria-767 thous. tons, Hungary-779 thous.tons, Greece-458 thous.tons, Ireland-883 thous. tons, Portugal-778 thous.tons, Sweden-525 thous. tons, Czech Republic-556 thous. tons.

Cattle population in the world is 1 358.2 million heads, cattle slaughtered-288 mln. heads, share of cattle slaughter from livestock population is 21.2%, productivity of livestock in slaughter weight-228 kg, respectively in Kazakhstan-6.1 million heads; 2.4; 39.3%; 310 kg. World meat consumption level by types: pork 100.9 mln.tons (36.6%), beef 65.2 mln.tons (23.6%), mutton-8.37 mln. tons (3.1%), poultry 93.3 mln. tons (33.8%), other meat-8 mln. tons (2.9%), total 275.8 mln. tons. Respectively, the structure of Kazakhstan meat production by livestock type in percentage was 23.3%-pork, 44.2%-beef, veal, 15.1 %-mutton and goat meat, 8.9%-poultry, 8.5%-other meats.

Beef imports in Kazakhstan amounted 19.7 mln. USD. Main importers in the world are the EU countries-12 655.1 mln.USD, Russia-3 025.4 mln.USD, Germany-1 725.4 mln.USD, Egypt-515.5 mln. USD, OAU-257.5 mln. USD, Brazil-125.7 mln.USD.

Beef exports in Kazakhstan amounted 1.3 mln. USD. Main exporters in the world are the EU countries-12,533,4 mln.USD, Australia-4 666.7 mln. USD, Brazil-4 247.4 million USD, Germany-2 412.6 million USD, Argentina-1 497.0 million USD, New Zealand-1 452.0 million USD, Uruguay-1 228.0 million USD.

In Kazakhstan annual consumption of beef was 22 kg per capita, in Uruguay-76.1 kg, Argentina-71.7 kg, Australia-55.3 kg, New Zealand-52.6 kg, Brazil-42. 7 kg.

In 2008 the world's sheep population was 1 093,6 mln. heads, globally slaughtered sheep-540,3 mln. heads, the share of sheep slaughter from livestock population-49.4%, livestock productivity in slaughter-15.5 kg in carcass weight. In Kazakhstan, mutton import volume-1.2 mln. tons and exports-1.3 mln. tons.

The world horse meat market is about 700 000 t. In China the average annual production volumes of horse meat are 150 million t., in Russia-80 thous.tons, Mexico-78 thous.tons, Argentina-57 thous. tons, Kazakhstan-56.5 thous. tons, Mongolia-38 thous.tons, Kyrgyzstan-25 thous tons, USA-25 thous.t. etc. Major countries importing horse meat in the world are France and Italy. Horse meat is a national meal in Central Asian countries and Kazakhstan (in 2009-71.4 thous. tons).

Global production of sausage products was 4,432 million tons, including cooked sausages-1,682, half smoked sausage-0,665, raw-hard smoked sausages-0.236, smoked meat products-0,386, sausages and wieners-1,298, jellies, pies, etc. 0,164.

In 2008 in Kazakhstan the level of sausage consumption per capita was 4.5 kg, in Australia-70.6 kg, Argentina-33.9 kg, UAE-17.6 kg, Russia-17.1 kg, Germany-16, 1 kg, EU-8.2 kg, Brazil-7.7 kg, Egypt-6.7 kg. [9].

World production of canned meat was 9,778 million tons, including canned beef-6,888, canned mutton-2,890. Kazakhstan produced 5.2 thous.tons. Canned meat consumption level per capita in Kazakhstan-4.9, in Australia-18.2, New Zealand-35.1, Uruguay-18.9, Argentina-9.1, Mongolia-5.9, Brazil-5.4 [10]. Forecast of meat consumption level by types on our planet in 2010-2014 is shown in Table 5.

Forecast of beef production in Kazakhstan for 2010-2014 (thous.t.) is as follows (Table 6).

Sausage and canned meat production forecast in the world and Kazakhstan in 2010-2014 (thous.t) is shown in Table 7.

In 2012 the world population was 6.8 billion people, in Kazakhstan 16.7 mln. people.

Conclusion. According to the State program of agri-industrial development of the Republic of Kazakhstan for 2010-2014, it is planned to increase the volume of meat production to 1 147 thous. tons, with specific weight of agribusinesses 32.2% and further consolidation of production through cooperation of small businesses and household farms.

Table 5: Mln.tons

	2010	2011	2012	2013	2014
Beef	66,4	67,6	68,4	69,2	70,4
Mutton	8,55	8,64	8,72	8.80	8,87
Pork	105,7	107,4	108,0	110,1	112,3
Poultry	100,3	102,5	105,1	107,8	110,2
Other meat	7,4	7,2	7,1	7.0	7,0
Total	288,4	293,3	297,3	302,9	308,9

Table 6: Thous.tons

	2010	2011	2012	2013	2014
Beef	489,4	513,0	534,6	533,7	563,9

Table 7: Thous.tons

	2010	2011	2012	2013	2014
Sausage products World	32 863,5	33 377,5	33 577,4	34 297,6	34 774,2
Kazakhstan	51,5	58,7	63,9	68,2	73,3
Canned products World	9 492,0	10 039,2	10 196,5	10 062,7	10 288,6
Kazakhstan	76,4	83,0	86,8	87,5	89,7

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